We claim:

1. A planar waveguide grating device, comprising:

a slab waveguide defining an input channel and a plurality of output channels; and

an echelle grating having a multitude of facets, each of said facets being blazed with respect to a preselected channel position, and each facet having an elliptical curvature so as to be astigmatic with respect to the input channel and said preselected channel position.

2. A planar waveguide grating device as claimed in claim 1, wherein different groups of facets are astigmatically blazed with respect to preselected sets of input channel and blazing positions.

3. A planar waveguide grating device as claimed in claim 1, wherein said facets are arranged such that the input and output channels lie on a Rowland circle.

4. A planar waveguide grating device as claimed in claim 1, wherein the input channel and the preselected output channel are located at the foci of an ellipse along a segment of whose locus the facets lie.

5. A planar waveguide grating device as claimed in claim 4, wherein said echelle grating is configured to operate in at least the 20^{th} order.

6. A planar waveguide grating device wherein said echelle grating is configured to operate in at least the 450^{th} order.

7. A planar waveguide grating device as claimed in claim 1, wherein is said slab waveguide and said echelle grating form an integrated device.

8. A method of making a planar waveguide grating device, comprising:

providing a slab waveguide defining an input channel and a plurality of output channels; and

forming an echelle grating having a multitude of facets, each of said facets being blazed with respect to a preselected output channel, and providing each facet with an elliptical curvature so that it is astigmatic with respect to the input channel and said preselected output channel.

9. A method as claimed in claim 8, wherein said facets are located such that said input and output channels lie on a Rowland circle.

10. A method as claimed in claim 8, wherein the input channel and the preselected output channel are located at the foci of an ellipse along a segment of whose locus the facets lie.

11. A method as claimed in claim 8, wherein said echelle grating is configured to operate in at least the 20^{th} order.

12. A method as claimed in claim 8, wherein said echelle grating is configured to operate in at least the 450^{th} order

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13 ~~12~~. A method as claimed in claim 8, wherein said slab waveguide and said echelle grating are fabricated as an integrated device.

14 ~~13~~. A method as claimed in claim 12, wherein said slab waveguide and said echelle grating are fabricated on a silicon wafer.